

Apparatus and method for controlling and/or killing weeds

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Cited documents:

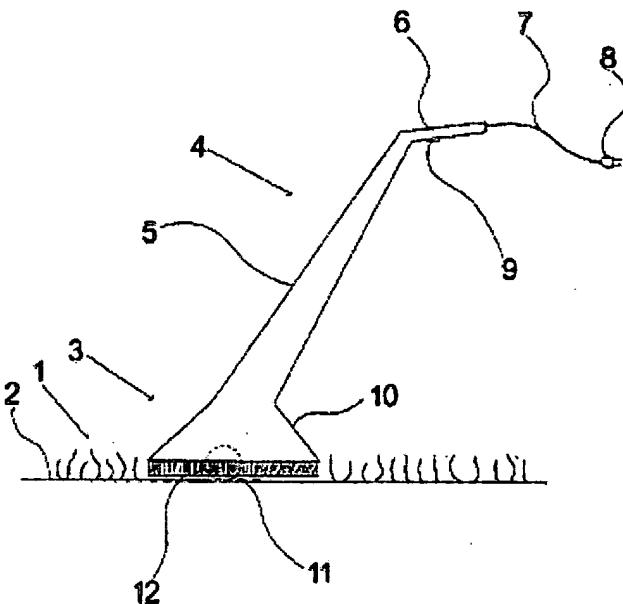
- US5385106
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Abstract of EP1186234

Apparatus for controlling and/or killing weeds, unwanted growth or the like, said apparatus comprising a reservoir 30 for a liquid such as water, at least one heating element 25 for heating of the liquid, and steam outlet means. The apparatus comprises a boiler 20 in which the at least one heating element is incorporated. The boiler is placed in a lower part (3) of the apparatus, and the reservoir for liquid is connected to the boiler.

By this apparatus, water is heated to steam in a boiler near the ground, whereby the steam has to be transported for only a small distance. Hence, the temperature drop in the steam will be insignificant. As the heating of the liquid takes place in the lower part (3) of the apparatus, there will be no discomfort to the user due to heated parts or heated liquid being positioned near the body of the user. Further, as heating of the liquid takes place in a separate boiler, only a fraction of the liquid contained in the apparatus has to be heated before the apparatus will be ready for use, and no energy will be wasted to heat a relatively large quantity of liquid which may not even be used for treating weeds.

The invention also relates to a method for producing steam for controlling and/or killing weeds, unwanted growth or the like.

**Fig. 1**

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Apparatus and method for controlling and/or killing weeds

Claims of EP1186234

1. Apparatus for controlling and/or killing weeds, unwanted growth or the like, said apparatus comprising a reservoir for a liquid such as water, at least one heating element for heating of the liquid, and steam outlet means characterized in that the apparatus comprises a boiler (20) in which the at least one heating element (25) is incorporated, in that the boiler is placed in a lower part (3) of the apparatus and in that the reservoir (30) for liquid is connected to the boiler.
2. Apparatus according to claim 1 characterized in that the boiler (20) is placed in a position in the apparatus near a ground level at a distance of 5 - 40 cm and preferably at 5 - 10 cm from ground level.
3. Apparatus according to claim 1 or 2 characterized in that the apparatus comprises shielding means (10) at its lower part (3) for applying steam to the weeds, and in that the boiler (20) is placed in the vicinity of these shielding means.
4. Apparatus according to claim 3 characterized in that the apparatus comprises sealing means for preventing or restricting the passage of steam from the inside of the shielding means, preferably in the form of brushes (12), rubber lips or similar means.
5. Apparatus according to one or more of claims 1 - 4 characterized in that the steam outlet means is arranged to direct a flow of steam downwards, preferably in a substantially vertical direction, and in that the steam outlet means comprises an outlet or a series of outlets (27) arranged in a direction which is essentially perpendicular to the normal direction of transport for the apparatus.
6. Apparatus according to one or more of claims 1 - 5 characterized in that the steam outlet means comprises a slit-shaped outlet (27) extending substantially transversely in relation to the traveling direction at a distance from the front and the back of the shielding means.
7. Apparatus according to one or more of claims 1 - 6 characterized in that the steam outlet means is arranged to direct a flow of steam in a substantially horizontal direction, preferably on one or both sides of the apparatus.
8. Apparatus according to one or more of claims 1 - 7 characterized in that means for controlling and/or regulating the supply of liquid from the reservoir (30) to the boiler (20) is arranged in relation to the connection (31) between the reservoir and the boiler.
9. Apparatus according to claim 8 characterized in that the controlling and/or regulating means comprises valve means controlled by the liquid level and/or the pressure in the boiler.
10. Apparatus according to one or more of claims 1 - 9 characterized in that the boiler (20) comprises a boiler chamber for a liquid (26), e.g. water, and in that steam outlet duct means leads from an upper part of the boiler chamber to a lower part inside the shielding (10) of the apparatus.
11. Apparatus according to claim 10 characterized in that the steam outlet duct means is led through the boiler chamber and preferably positioned substantially vertically.
12. Apparatus according to claim 10 or 11 characterized in that the at least one heating element (25) is positioned in the boiler chamber, preferably around the steam outlet duct means.
13. Apparatus according to one or more of claims 1 - 12 characterized in that the apparatus comprises a handle part (4) for manual operation, the handle part stretching down towards the boiler (20), and in that the reservoir (30) for liquid is supported by or incorporated in this handle part, and /or in that the reservoir (30) is a structural part of the handle part (4).
14. Apparatus according to one or more of claims 1 - 13 characterized in that the apparatus comprises supporting and/or positioning means at its lower part (3), preferably in the form of one or more wheels (11)

or runners.

15. Apparatus according to one or more of claims 1 - 14 characterized in that the at least one heating element is an electric heating element (25) or a burner, for example a gas burner.

16. Method for producing steam for controlling and/or killing weeds, unwanted growth or the like, comprising the supply of a liquid from a reservoir to a boiler placed immediately above or at a relatively short distance from the weeds.

17. Method according to claim 16 characterized in that the supply of liquid from the reservoir to the boiler is controlled and/or regulated, preferably in dependency of the liquid level and/or the pressure in the boiler.

18. Method according to claim 16 or 17 characterized in that the liquid in the boiler is heated by at least one heating element, preferably an electric heating element or a burner.

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